

Fig. 1

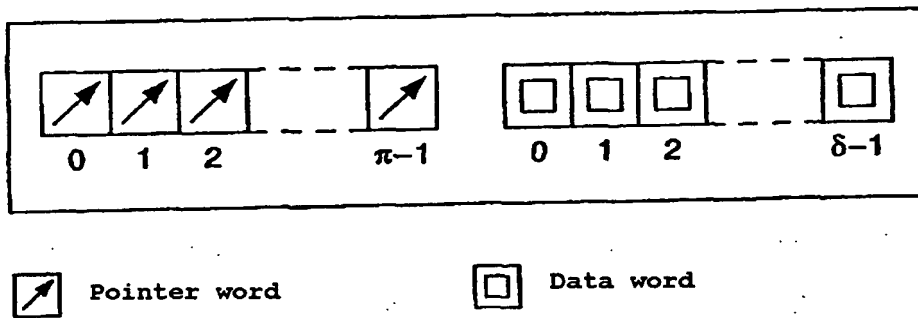


Fig. 2

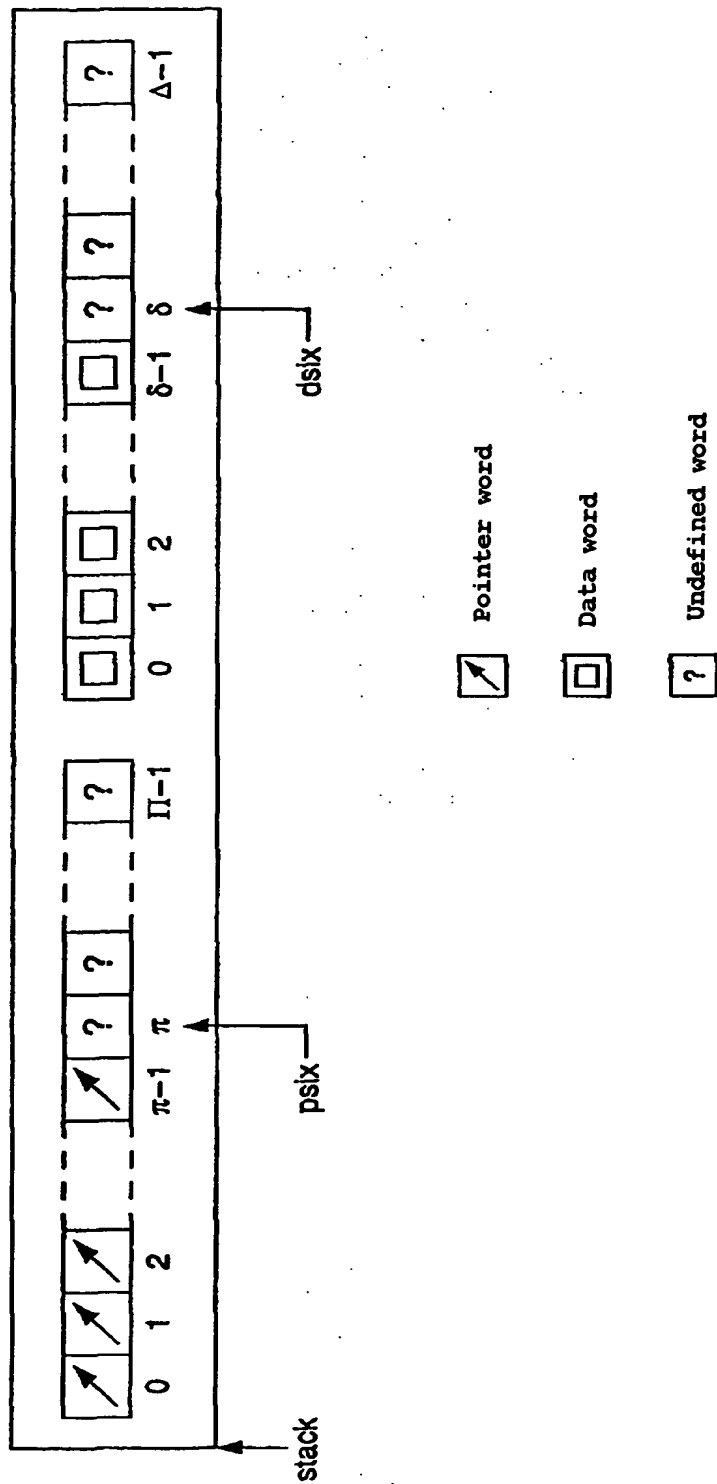


Fig. 3

Commands which read the pointer register			
store pointer	(store pointer)	sp	py[index] := pz
copy pointer	(copy pointer)	cpp	px := pz
compare pointers	(compare pointers)	cmpp	dx := py, pz

Commands which write the pointer register			
allocate object	(allocate object)	alc	px := dy, dz
load pointer	(load pointer)	lp	px := py[index]
copy pointer	(copy pointer)	cpp	px := pz
create const. pointer	(create const. pointer)	ccp	px := dy

Commands which dereference the pointer register			
load data	(load data)	ld	dx := py[index]
load pointer	(load pointer)	lp	px := py[index]
store data	(store data)	sd	py[index] := dz
store pointer	(store pointer)	sp	py[index] := pz
read π attribute	(read π -attribute)	pattr	dx := py
read δ attribute	(read δ -attribute)	dattr	dx := py

dx, dy, dz data register
px, py, pz pointer register
index expression for type of
 indexing

Fig. 4

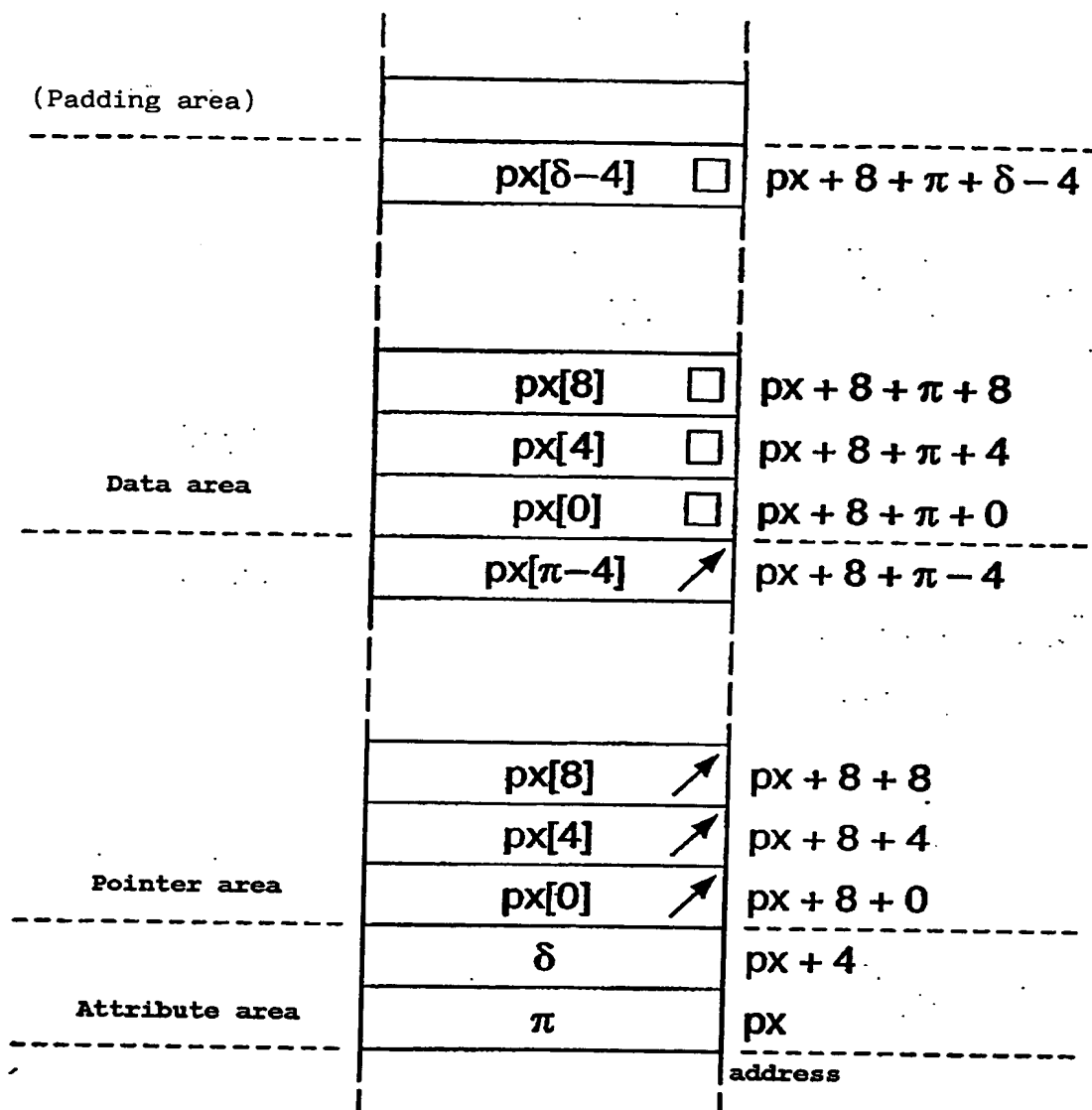


Fig. 5

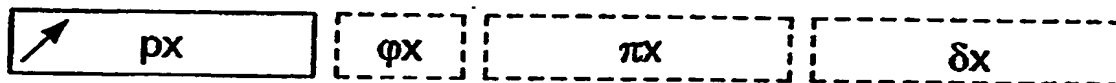


Fig. 6

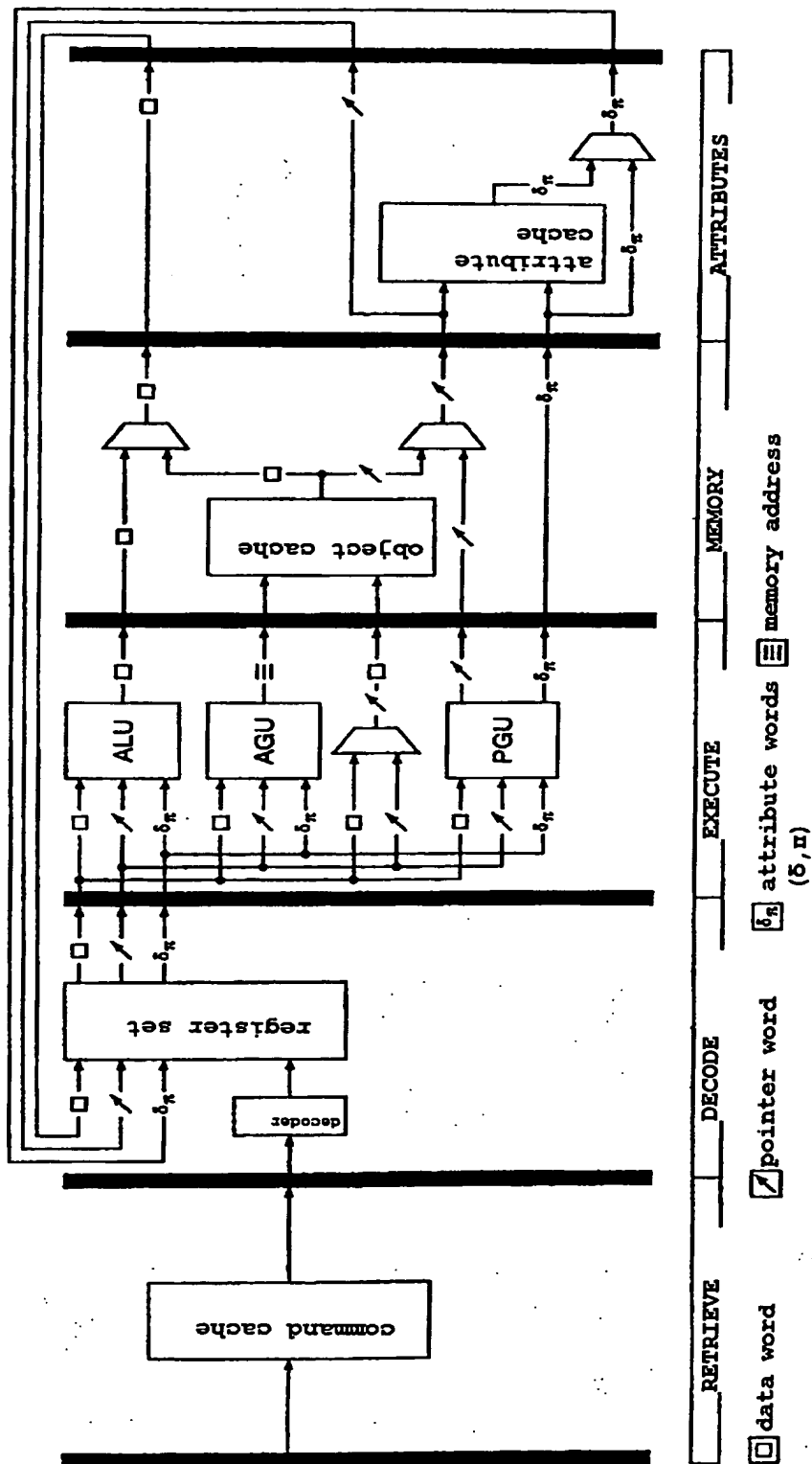


Fig. 7

RETRIEVE		DECODE		EXECUTE		MEMORY		ATTRIBUTES	
load data		read operands	<input checked="" type="checkbox"/> δ_n	AGU	<input type="checkbox"/>	load data	<input type="checkbox"/>	-	<input type="checkbox"/>
load pointer		read operands	<input checked="" type="checkbox"/> δ_n	AGU	<input type="checkbox"/>	load pointer	<input checked="" type="checkbox"/>	load attribute	<input checked="" type="checkbox"/> δ_n
store data		read operands	<input checked="" type="checkbox"/> δ_n	AGU, MUX	<input type="checkbox"/>	store data	<input type="checkbox"/>	-	<input type="checkbox"/>
store pointer		read operands	<input checked="" type="checkbox"/> δ_n	AGU, MUX	<input type="checkbox"/>	store pointer	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>
lay pointer on stack		read operands	<input checked="" type="checkbox"/> δ_n	ALU, AGU, MUX	<input type="checkbox"/>	store pointer	<input type="checkbox"/>	-	<input type="checkbox"/>
compare pointers		read operands	<input checked="" type="checkbox"/>	ALU	<input type="checkbox"/>	-	<input type="checkbox"/>	-	<input type="checkbox"/>
read attributes δ, n		read operands	δ_n	ALU	<input type="checkbox"/>	-	<input type="checkbox"/>	-	<input type="checkbox"/>
allocate object		read operands	<input type="checkbox"/>	AGU, PGU	<input checked="" type="checkbox"/> δ_n	initialize pointer	<input checked="" type="checkbox"/> δ_n	store attribute	<input checked="" type="checkbox"/> δ_n
produce const. pointer		read operands	<input type="checkbox"/>	PGU	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	load attribute	<input checked="" type="checkbox"/> δ_n
copy pointer		read operands	<input checked="" type="checkbox"/> δ_n	PGU	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/> δ_n	-	<input checked="" type="checkbox"/> δ_n

☒ data word
 ☒ pointer word
 ☒ attribute words (δ, n)
 ☒ memory address

Fig. 8

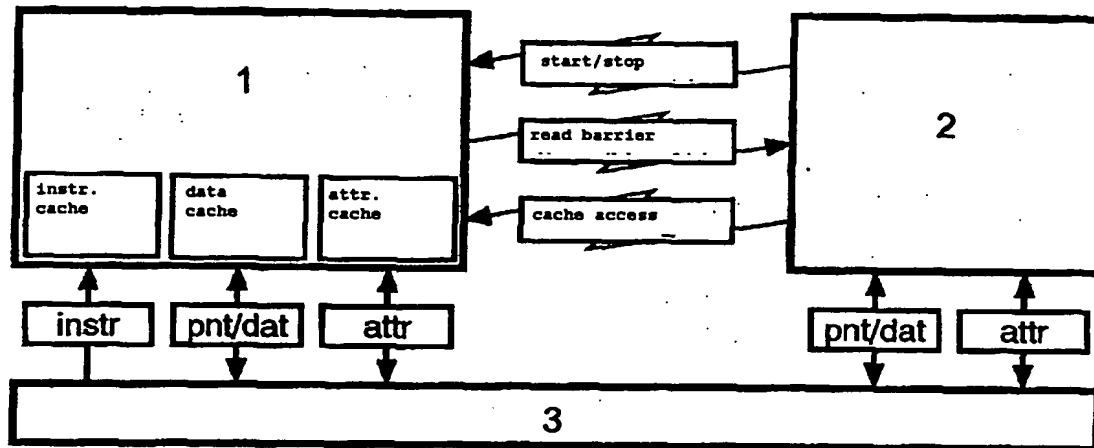


Fig. 9